"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125671
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE DEHYDRATION OF ALPHA,(R,SUBSTITUTED),DELTA, HYDROXY,GAMMA,CAPROLACTONES (I) R EQUALS ET, PR, BU, ISO-BU, ISO-AMYL) WITH HPO SUB2 GAVE ALPHA,(R,SUBSTITUTED),GAMMA,VINYLBUTYROLACTONES. THE REPLACEMENT OF THE OH GROUP OF I BY CL GAVE DELTA,CHLORO ANALOGS OF I WHICH REACTED WITH ETONA TO GIVE DELTA,ETHOXY ANALOGS OF I. FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SYNTHESIS OF LACTONES. VII. SELECTIVE REDUCTION OF ACETYLBUTYROLACTONES BY ALUMINUM ISOPROPYLATE -U-

AUTHOR-(05)-ARUTYUNYAN, V.S., SARKISYAN, O.A., KAZARYAN, SH.A., ZALINYAN, M.G., DANGYAN, M.T.

COUNTRY OF INFO--USSR

SOURCE--ZH. ORG. KHIM. 1970, 6(4), 856-60

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SYNTHESIS, LACTONE, CHEMICAL REDUCTION, ORGANOALUMINUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2083 STEP NO--UR/0366/70/006/004/0856/0860

CIRC ACCESSION NO--AP0125670

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0125670
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SELECTIVE REDN. OF ALPHA, (R SUBSTITUTED),GAMMA,ACETYLBUTYROLACTONES (R EQUALS ET, PR, ISO-PR, BU, ISO-BU, OSOAMYL) WITH (ISO-PRO) SUB3 AL (I) GAVE ALPHA,(R SUBSTITUTED),GAMMA, (ALPHA,HYDROXYETHYL)BUTYROLACTONES. THE REDN. OF BETA,ACETYL,BETA,CARBETHOXYBURYROLACTONE WITH I GAVE BETA,(ALPHA,PROPOXYETHYL),BETA,CARBETHOXYBUTYROLACTONE WHICH WAS DECARBOXYLATED TO BETA,(ALPHA,PROPOXYETHYL)BUTYROLACTONE (II). THE REDN. OF BETA,ACETYLBUTYROLACTONE WITH I ALSO GAVE II. THE REDN. OF ALPHA,(3,OXOBUTYL)BURYROLACTONE GAVE ALPHA,(3,HYDROXYBUTYL)BUTYROLACTONE. ALPHA,ACETYLBUTYRO,LACTONES COULD NOT BE REDUCED IN THIS WAY. FACILITY: EREVAN. GOS. UNIV., EREVAN, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LINEAR PERIODIC PROBLEM OF A SLOPE WIND OVER A THERMALLY INHOMOGENEOUS SLOPING SURFACE -U-
AUTHOR-(02)-MKHITARYAN, A.M., ARUTIUNYAN, ZH.G.

COUNTRY OF INFO--USSR

SOURCE--AKADEMIIA NAUK ARMIANSKOI SSR, DOKLADY, VOL. 50, NO. 1, 1970, P. 11-19
DATE PUBLISHED-------70

SUBJECT AREAS--ATMOSPHERIC SCIENCES

TOPIC TAGS--ATMOSPHERIC MOTION, ATMOSPHERIC WIND, DIFFERENTIAL EQUATION, ATMOSPHERIC TEMPERATURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0711 STEP NO--UR/0252/70/050/001/0011/0019

CIRC ACCESSION NO--AT0121370
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0121370

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ANALYSIS OF THE MOTION OF AIR ON A NONUNIFORMLY HEATED PLANE SLOPE FORMING A GIVEN ANGLE WITH THE HORIZONTAL PLANE. IT IS ASSUMED THAT THE TEMPERATURE OF THE SLOPING SURFACE IS A PERIODIC FUNCTION OF TIME AND DECREASES LINEARLY UP THE SLOPE. A SYSTEM OF DIFFERENTIAL EQUATIONS IS DERIVED TO DESCRIBE THE MOTION OF AIR ON A SLOPE. THE WIND VELOCITY COMPONENTS ACTING ALONG A SLOPE AND NORMALLY TO ITS SURFACE AND ALSO THE TEMPERATURE VARIATIONS AT VARIOUS DISTANCES FROM THE GROUND AT DIFFERENT MOMENTS OF TIME ARE CALCULATED FROM THESE EQUATIONS FOR SIX DIFFERENT POINTS OF A SLOPING SURFACE. AN ANALYSIS SHOWS THAT THE VELOCITY OF A VALLEY WIND CAN REACH A MAXIMUM OF 12-14 M-SEC. FACILITY: ZAKAVKAZSKII NAUCHNO-ISSLEDOVATEL'SKII GIDROMETEOROLOGICHESKII INSTITUT, YEREVAN, ARMENIAN SSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--WATER CONTAMINATION -U-

AUTHOR--ARUYA, M.

A

COUNTRY OF INFO--USSR

SOURCE--SOVETSKAYA ESTONIYA, AUGUST 23, 1970, P 2, COLS 4-7

DATE PUBLISHED--23AUG70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--WATER POLLUTION, WATER PURIFICATION, GEOGRAPHIC LOCATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1779 STEP NO--UR/9017/70/000/000/0002/0002

CIRC ACCESSION NO--AN0138733

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 010 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AN0138733

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AFTER A GROUP OF ESTONIAN EXPERTS HAD GONE TO CZECHOSLOVAKIA TO STUDY THE PURIFICATION OF SEWAGE WATER, THE ESTONIAN GOVERNMENT MADE THE DECISION TO CONSTRUCT 17 PURIFICATION PLANTS IN RURAL HAMLETS AND SMALL PLANTS. THE PURIFICATION PLANTS WILL BE BASED ON THE ACTION OF BACTERIA AND OXYGENATION. PLANTS OF THIS TYPE PRODUCE 90-98 PERCENT PURE WATER. A. MAASTIKA, DOCENT, HEAD OF THE HYDROAMELIORATION CHAIR OF THE ESTONIAN AGRICULTURAL ACADEMY IS ACTIVELY PARTICIPATING IN THE DEVELOPMENT OF NEW PURIFICATION PLANTS. THE AUTHOR OF THE ARTICLE, WHO HAD A CHANCE TO TASTE WATER FROM A BIOLOGICAL TREATMENT POOL, CLAIMS THAT IT WAS "CLEAR LIKE A TEAR" AND TASTED BETTER THAN WATER FROM ANY NATURAL SOURCE. ACCORDING TO THE ARTICLE, THE TALLIN POLYTECHNIC INSTITUTE DIRECTED THE DEVELOPMENT OF A COMPACT BIOFILTER, THE "BIO-25", BY THE "ESTONPROYEKT". THE NEW FILTER COSTS ONLY 11,000 RUBLES AS COMPARED TO 47,000 FOR A "CLASSICAL" PLANT. ANOTHER IDEA OF THE INSTITUTE, A STANDARD BIOLOGICAL PURIFICATION PLANT, "OKSID", HAS BEEN DEVELOPED BY THE ESTGIPROSEL'STROY" DESIGN PLANNING INSTITUTE. COSTING 16,000 RUBLES, IT WILL BE USED IN TOWNS WITH POPULATIONS UP TO 3,000 PEOPLE AND WILL PRODUCE 90 PERCENT PURE WATER.

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USSR

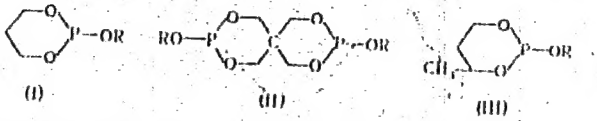
UDC 541.63:541.67:547.1'118:547.8

AR'UZOV, B. A., ARSHINOVA, R. P., VUL'FSON, S. G., MUKMENEV, E. T.

"Steric Structure of Phosphorus-Containing Heterocycles. 4. Axial Arrangement of the Alkoxy Group in 1,3,2-dioxaphosphorinanes by the Dipole Moment Data"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, 1973, pp 2426-2431

Abstract: A study was made of the conformation of two classes of compounds: 2-alkoxy-1,3,2-dioxaphosphorinanes (I) and the corresponding dialkoxypentaerythitdiphosphites (II)



(I) (II) (III)

(I) R=Et(a), Ph(6); (II) R=Et(a), Ph(6); (III) R=Me(a), n-Pr(6)

Data are compared on the structure of 1,3,2-dioxaphosphorinanes which are derivatives of trimethylene glycol and 1,3-butylene glycol.

The dipole moments are determined for 2-alkoxy and 2-phenoxy-1,3,2-dioxaphosphorinanes and their spiro analogs with a three-coordinated phosphorus 1/2

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

AR'UZOV, B. A., et al., Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 11, 1973, pp 2426-2431

atom. A graphical procedure is proposed for the analysis of the dipole moment data for cyclic compounds. In all of the investigated compounds, conformation of the chair configuration with the axial (or diaxial for the spiro compound) arrangement of the alkoxy group with gosh-orientation of the methoxyl and ethoxyl radicals and with cis-orientation of the phenoxy group. The proposed graphical procedure permitted not only establishment of the steric structure of the spirane molecules but also certain conclusions regarding the structure of the corresponding monocyclic molecules.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC: 534-8

ARVIN, G., PRIALGAUSKAS, I., and RIBIKAUSKAS, S.

"Use of Acoustical Methods for Bacterial Preparations"

Nauch. tr. vyssh. ucheb. zavedeniy LitSSR. Ul'trazvuk (Scientific Works of the Lithuanian VUZ; Ultrasonics) No 4, 1972, pp 85-91 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh594)

Translation: A pulse device with a chamber of small volume for measuring ultrasonic absorption in biological materials is described. Results are given of measurements of the velocity and absorption of sound ir salmonella vaccine, salmonella diagnostica, and in dry horse serum, cultured in a physiological solution dependent on the concentration of microorganisms and the total quantity of albumen. The velocity was measured by a small-dimensioned ultrasonic interferometer at a frequency of 3 MHz, and the absorption was measured by a pulse device at frequencies of 15 and 45 MHz and at temperatures of 18.5 and 37°C. It was established that with the use of the velocity and absorption measurements, it is possible to determine the concentration of microbes in medical vaccines and diagnostica as well as the total amount of albumen in serum solutions. Bibliography of eight. Authors' abstract

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

Acc. Nr: AP0044608 Ref. Code: UR0497

PRIMARY SOURCE: Klinicheskaya Meditsina, 1970, Vol 48, Nr 1, pp 79-83

RADIOISOTOPE SCANNING IN THE DIAGNOSIS OF ECHINOCOCCOSIS OF THE LIVER

A. I. Andrukovich, L. T. Aryamkin

Summary

Radioisotope scanning of the liver was carried out in 196 patients with symptoms of hepatomegalia. Echinococcosis of the liver was revealed in 36 persons. Hydatid form of the parasite was seen in 16, alveolar — in 20 patients. In all the cases the scannogram showed a typical picture of extensive defect of isotope absorption at the site of tumor localization with a marked symptom of «hollow» liver. For the purpose of early diagnosis of affections of the liver with echinococcus the authors recommend to conduct scanning of the liver in all patients admitted into hospitals with symptoms of hepatomegalia.

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19771285

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 016 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--PREPARATION OF OPAQUE ANODIC OXIDE FILMS ON ALUMINUM ALLOYS -U-

AUTHOR-(03)-LEONOVA, L.A., ARYAMOVA, I.I., IZAMAYLOV, A.V.

COUNTRY OF INFO--USSR

SOURCE--IZV. VYSSH. UCHEB. ZAVED., KHIM. KHIM. TEKHNOL. 1970, 13(1), 86-8

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ANODIC COATING, ANODIZED ALUMINUM, ELECTROLYTIC OXIDATION, CITRIC ACID, BORIC ACID, OXALATE/(U)D16T ALUMINUM ALLOY, (U)AMTSAM ALUMINUM ALLOY, (U)AMG6M ALUMINUM ALLOY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/1793 STEP NO--UR/0153/70/013/001/0086/0088

CIAC ACCESSION NO--AT0115622

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 016 UNCLASSIFIED PROCESSING DATE--020CT70

CIRC ACCESSION NO--AT0115622

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GOOD QUALITY OPAQUE FILMS ARE ELECTROLYTICALLY FORMED ON AL ALLOYS D16 T, D16 AMD, AMTS AM, AND AMG 6M FROM AN ELECTROLYTE CONTG. OXALIC ACID 40-60, CITRIC ACID 10-30, H SUB3 BO SUB3 3-10 G-L. AT 10-40DEGREES AND C.D. EQUALS 1-4 A-DM PRIME2 AT 50-90 V BY USING A STAINLESS STEEL CATHODE. IN 1 HR AT 2.5 A-DM PRIME2, THE MAX. FILM THICKNESS OF 22-8 MMU IS OBTAINED AT 20-30DEGREES. IF ELECTROLYSIS IS CONTINUED FOR 150 MIN AT 25DEGREES, THE FILM THICKNESS ON D16 AMD ALLOY INCREASES TO 45 MMU, BUT DOES NOT INCREASE WITH LONGER ELECTROLYSIS. AT 10 MIN THE CURRENT YIELD IS 43.5PERCENT, BUT OVER A 4 HR PERIOD, IT IS ONLY 14.5PERCENT. OVER THE RANGE 1-4 A-DM PRIME2, THE FILM DEPOSITED IN 1 HR INCREASES LINEARLY 9.5-37.7 MMU IN THICKNESS. THE COLOR AND TONE OF THE FILM DEPENDS ON THE ALLOY SUBSTRATE AND TIME. LIGHTER, BRIGHTER FILMS ARE OBTAINED AT 25-35DEGREES THAN AT 10-15DEGREES.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--APPARATUS FOR MEASURING DIELECTRIC PROPERTIES OF A FILM DURING DEFORMATION AT A WIDE RANGE OF RATES AND TEMPERATURES -U-

AUTHOR-(02)-AKYEV, A.M., SOTNIKOV, A.V.

A

COUNTRY OF INFO--USSR

SOURCE--ZAVOD. LAB. 1970, 36(5), 624-5

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS, MATERIALS

TOPIC TAGS--DIELECTRIC PROPERTY, ELASTIC DEFORMATION, DIELECTRIC LOSS, DIELECTRIC MATERIAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0914 STEP NO--UR/0032/70/036/005/0624/0625

CIRC ACCESSION NO--AP0131500

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0131500

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A CIRCULAR FILM IS STRETCHED RADIALLY BY A SYSTEM OF CLAMPS ATTACHED TO LEVERS MOVING OUTWARD AT A PREDETD. RATE. THE FILM IS HEATED LESS THAN OR EQUAL TO 350DEGREES OR COOLED TO MINUS 150DEGREES IN VACUO, WHILE BEING STRETCHED, AND ITS DIELEC. LOSS TANGENT IS DETD. AT SHORT TIME INTERVALS. FACILITY: LUGANSK. MASHINOSTROIT. INST., LUGANSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

Acc. Nr: AP0051905 Ref. Code: UR0425

PRIMARY SOURCE: Vrachebnoye Delo, 1970, Nr 2, pp 21-23

MORPHOLOGICAL CHARACTERISTICS OF THE GASTRIC MUCOSA IN PATIENTS WITH CHRONIC GASTRITIS

M. K. Tikhonov and *L. M. Arkev* (Leningrad)

The morphological changes of the gastric mucosa have been studied in 127 patients with chronic gastritis and gastric functional disorders. All patients were young aged.

Gastric mucosa changes were most frequent and marked in chronic gastritis with secretory insufficiency.

Gastritis with normal and increased secretion showed mainly manifestations of superficial gastritis.

Aspiration biopsy of the stomach enabled to detect glandular forms of cancer in the preclinical period.

REEL/FRAME
19820388

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

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USSR UDC 612.58:612.13:612.821.51

ARYNCHYN, M. I., NIKITSIN, U. M., MATSKEVICH, L. I., MIKAKLA, V. ..., KAZLOVA, L. M., CHEMAKIN, I. K., SHAFRANSKI, L. V.

"Differential (Complex) Hypothermia and Its Experimental and Theoretical Basis"

Minsk, Vesti Akademiyi Nauk BSSR, Seryya biyalagichnykh Navuk, No. 1, 1970, pp 60-66

Abstract: A broad review of the applications of hypothermia is presented and the various biological functions involved, including EKG, biochemistry, hemodynamics, central and peripheral affects, etc. are discussed. An original construction of a cooling chamber is shown, consisting of two chambers, one for the head, and one for the body, in which the temperatures differ. The effect of two-chamber hypothermia, occurring under different degrees of temperature on various reflexes in dogs, hemodynamics, hormones, minerals, and blood proteins is discussed. Various clinical possibilities are discussed and the use of this apparatus in cardiac surgery is suggested.

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ARYSTAMOV, G.A.

Medical Service

Russian

J-9605

85

USSR 612.284-004-089

Sov. Military Medical Journal
for 1970

MICROSURGERY OF THE EAR IN OTOSCLEROSIS

G. A. Arystamov, Lieut.-Col., Medical Service

In 1968, in the otorhinolaryngology department of our district hospital, 17 persons were under treatment for a loss of hearing due to otosclerosis. As is known, a sound wave, on striking the tympanic membrane, ordinarily is transmitted through a complex of auditory ossicles to the internal passages of the labyrinth and thence to Corti's organ. The necessary condition for such a transmission of sound is the normal mobility of the ossicles. When otosclerosis sets in, the ossicles find themselves blocked in the oval window of the labyrinth, and become motionless. As a result, the system of sound transmission breaks down.

Surgical intervention is, at the present time, the only method for restoring hearing in such cases. There exist two methods of surgical treatment for otosclerosis. The first consists of restructuring the sound-conducting mechanism and creating a new system for sound conduction (L. Holmgren, 1923; F. Lempert, 1938; K. L. Kiplov, 1958, etc.). The second method involves the restoration of the physiological sound-conduction system (S. Rosen, 1960; V. Shea, 1960; N. Portmann, 1961; A. I. Kolomiychenko, 1962; V. F. Nikitina, 1962; S. N. Khechinashvili, 1963, and others).

We have chosen the methods proposed by Portmann and Shea as being the least traumatic and providing the best functional results. Before proceeding with the micro-operations, we set up in our department a number of soundproof compartments wired for indicators of a stationary audiometer. We also equipped our surgical microscope (made by the Kinnerasmuhlen — Red Guard, firm) with additional lighting, and procured a set of special ear-surgery instruments needed in such cases.

The day before and on the morning of the operation, the patient receives physiotherapy. The operation is carried out under local anesthesia. Novocaine, 2% made a curved incision in the skin, about 0.5 cm. from the position of the external auditory passage. A musculo-periosteal flap is then cut out, for better observation of the various ossicle components. The bone above them is cleared with a spoon-shaped instrument. From this point on, the operation proceeds under the microscope, with a magnification of 7 to 10x.

On determining that the ossicles are indeed blocked, the malleus-incus combination is separated and the supports are broken off at the foundation of the base plate. If the operation is carried out by the Shea method, the stirrup is removed and the base plate perforated. A previously-prepared venous flap is then put in this position and a teflon prosthesis is installed between the flap and the lenticular apophysis of the incus. In this way, the continuity and mobility of the sound transmission system is restored. If surgery is performed by the Portmann method, a stirrup is installed, as a prosthesis, between the perforation in the base plate covered by the venous flap, and the lenticular apophysis. After careful hemostasis, the tympano and the meatal flap are restored in place. A sterile turunda is then introduced through the external aural passage, as well as powdered antibiotics.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 678.744.422-19:546.98

SHVETS, T. M., MIKHALYUK, S. A., MEL'NICHENKO, Z. M., BOTVINOV, V. A., and ARYUPINA, K. A., Institute of Colloidal Chemistry and Chemistry of Water, Acad. Sc. UkrSSR

"Electroconductivity of Metallopolymers Based on the Alloy Fe-Co-Ni and the Copolymers of Vinyl Chloride With Vinyl Acetate"

Kiyev, Ukrainskii Khimicheskii Zhurnal, Vol 39, No 3, Mar 73, pp 258-261

Abstract: Experimental data have been reported on the value of electroconductivity in relationship to the nature of polymer, composition of metallopolymer, and the temperature of treatment of the metallopolymer obtained by electrolytic method from the alloys consisting of iron-cobalt-nickel and copolymers of vinyl chloride with vinyl acetate. It has been shown that the electroconductivity depends on the composition of the metallopolymers and on the temperature of preliminary treatment.

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USSR

BASKAKOV, Yu. A., VOLOVNIK, L. L., VASIL'EV, A. F., ARYUTKINA, N. L., TIBANOV, P. V., and NEGREBETSKIY, V. V.

"Herbicidal Derivatives of Hydroxylamine. XXIV. The Reaction of Halides of Haloacetic Acids with Hydroxylamine Derivatives of Thiourea"

Khimiya Geterotsikl. Soyedin. [Chemistry of the Heterocyclic Compounds -- Collection of Works], No 3, Riga, Zinatne Press, 1971, pp 104-107. (Translated from Referativnyy Zhurnal Khimiya, No 5, Moscow, 1972, Abstract No 5N676 by the authors)

Translation: The reaction of $ClCH_2COCl$ with N-methylthiocarbamoyl-O-methylhydroxylamine (I) without any HCl acceptor produces 2-methoxyimino-3-methyl-4-oxo-1, 3-thiazolidinium (II), which is converted by heating in MeOH to 2-methoxyimino-3-methyl-1, 3-thiazolidin-4-one (III). Two point two (2.2) g $ClCH_2COCl$ is added to a solution of 2.4 g I in 100 ml ether at -20°, mixed for 2 hours (after which the temperature of the mixture is about 20°) and 3.6 g II are separated, yield 94 %, mp 160° (in a sealed capillary). A solution of II in MeOH is heated 1-2 hr on a water bath, the MeOH is distilled under vacuum, producing III, yield about 100 %, mp 88°. For a previous report see RZHKHim, 1969, 4B1038.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 669.15.018.44

AKIMOVA, A. YU., RAKHSHTADT, A. G., ARZAMASOVA, V. S.

"High-Temperature Thermomechanical Working of Stainless Dispersion-Hardening Steels"

Povysh. konstruktivn. prochnosti staley i splavov. No 2 -- V sb. (Improving the Structural Strength of Steels and Alloys. No 2 -- collection of works), Moscow, 1970, pp 177-180 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4I652)

Translation: The effect of high-temperature thermomechanical working and subsequent aging on $\sigma_{0.002}$ of stainless dispersion-hardening Cr-Ni steel of austenitic-martensitic class type 17-7 additionally alloyed with Al, Mo, or Ti and stainless martensitic-aging 12 Cr-10 Co steel with a high W content (6-8%) or Mo content (6%) was studied. High-temperature thermomechanical working of Cr-Ni steel not only increases $\sigma_{0.002}$ but also the resistance to stress relief during prolonged aging. The highest $\sigma_{0.002}$ was obtained in Kh17N7T steel (0.3% Ti). The value of $\sigma_{0.002}$ is 150 kg/mm^2 after high-temperature thermomechanical working (reduction of area 50%), cold working at

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

AKIMOVA, A. YU., et al., Povsh. konstruktivn. prochnosti staley i splavov. No 2, Moscow, 1970, pp 177-180

-70°, 2 hours, and aging at 450°, 4 hours; $\sigma_{0.002}$ of the same steel is 110-115 kg/mm^2 after ordinary quenching, cold working, and aging. A sharp increase in $\sigma_{0.002}$ was observed for martensitic aging steel immediately after high-temperature thermomechanical working (25% reduction at 1,050°). However, the increase in $\sigma_{0.002}$ after aging steel subjected to high-temperature thermomechanical treatment does not exceed 4-6 kg/mm^2. There are 2 illustrations and a 2-entry bibliography.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 621.311.001.1

ARZAMASTSEV, L. A.

"Some Problems of Mathematical Simulation for Controlling Large Systems as Applied to Electric Power Systems"

V sb. Optimiz. i upr. bol'shimi sistemami v energ. (Optimization and Control of Large Systems in Power Engineering -- collection of works), Irkutsk, 1970, pp 215-228 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye177)

Translation: Means of solving the problem of optimal development of power engineering are based on the hierarchical local nature and dynamic nature of the investigated systems. These properties are investigated. The condition of admissibility of separate optimization of the local system is derived. When selecting the optimal calculation time an adaptive approach is recommended. From investigation of the multicriterial nature of the problem, the conclusion is drawn that the development strategies characterized by a set of probable-optimal plans. Analysis of the consideration of accuracy of realizing the solution permits us to consider a set of probable-optimal solutions which can be optimal with different probabilities during the realization. The bibliography has 10 entries. [Urals Polytechnical Institute]
1/1

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 678.744.325.01:539.389

SKOROBOGATOVA, A. Ye., ARZHAKOV, S. A., BAKEYEV, N. F., and KABANOV, V. A., Moscow State University Imeni M. V. Lomonosov

"Forced Elastic Relaxation of Glass-Like Polymers and the Mechanism of Forced Elasticity"

Moscow, Doklady Akademii Nauk SSSR, Vol 211, No 1, Jul-Aug 73, pp 151-154

Abstract: The kinetics of the relaxation of polymethylmethacrylate samples, polymethylmethacrylate mixed with 20% dibutyl phtalate and other polymers subjected to preliminary monoaxial compression or stretching in the glass-like state was studied in an attempt to find the relationship between forced elasticity and supermolecular structure of the polymers. In general, the forced elastic deformation consists of two components: one of them is capable of relaxing at low temperature, the other -- at the temperature of glass formation. The input of these components depends on the temperature of deformation and on the degree of deformation at a fixed temperature. There were no differences found between these two samples tested. The experimental data, especially the relaxation ability after the deformation due to monoaxial compression, point out that the amorphous polymers have a quite perfectly ordered supermolecular structure.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

Arzhakov, S.A

Chem Science

THE FORMATION OF THE SOLID PHASE IN THE

[Article by Candidates of Chemical Sciences

Moscow, Vestnik Akademii Nauk SSSR, No 11, November 1970, pp 47-51]

In the study of questions of crystallization of polymers special importance is attached to the investigation of the formation of the condensed phase directly in the course of polymerization. The process proceeds here against the background of the formation of new molecules, but the supermolecular formations constructed out of "finished" macromolecules are not completely built; growth as a result of chain termination of growing chains, characterized by a low degree of polymerization at the moment of their addition to the element of the phase. Further growth of such chain occurs in this direction only of the solid surface, and this has a very appreciable influence on the perfection of the forming structures, as is known even the usual kinetic diffraction of their growth can be bypassed.

The present article will discuss the results of investigations conducted by us to clarify the mechanism of formation of the solid phase in systems where the initiation of polymerization proceeds according to a homogeneous principle, mainly systems of free-radical initiation with thermal initiators capable of being dissolved in the reaction medium, as well as systems in which the initiation is accomplished by irradiation with some form of energy. The mechanism of formation of the new phase in such systems evidently is the same as in homogeneous nucleation [1].

We will examine the free-radical polymerization of vinyl chloride, which is characterized by the fact that the formation of the polymeric phase occurs only in the medium of the polymer itself.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--SENSITIZED PHOTOOXIDATION OF AMINO ACIDS IN FROZEN SOLUTIONS -U-

AUTHOR-(03)-POZNYAK, A.L., SHAGISULTANOVA, G.A., ARZHANKOY, S.I.

COUNTRY OF INFO--USSR

SOURCE--BIOFIZIKA 1970, 15(1), 20-1

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--AMINO ACID, AQUEOUS SOLUTION, UV IRRADIATION, FREE RADICAL, ELECTRON SPIN RESONANCE, PHOTOOXIDATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0633 STEP NO--UR/0217/70/015/001/0020/0021

CIRC ACCESSION NO--AP0117859

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 014 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0117859

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. .CH SUB2 NH SUB3 PRIME POSITIVE (I), .CH(NH SUB3 PRIME POSITIVE)ME, .CH(NH SUB3 PRIME POSITIVE)CHME SUB2, AND .CH(NH SUB3 PRIME POSITIVE)CH SUB2 OH RADICAL IONS WERE OBTAINED BY IRRADIATING AT 77DEGREESK, WITH UV LIGHT, FROZEN AQ. SOLNS. OF GLYCINE, DL,ALPHA,ALANINE, DL VALINE, AND DL SERINE, RESP., IN THE PRESENCE OF NH SUB4 FE(SO SUB4) SUB2 OR CSCO(SO SUB4) SUB2. THE PRODUCTS WERE IDENTIFIED BY ESR SPECTRA. THE RATE OF ACCUMULATION OF I INCREASED WITH INCREASING PH OF THE SOLNS. UP TO PH 8 AND THEN DECREASED. THIS SHOWS THAT THE RADICAL IONS WERE FORMED MAINLY FROM THE ZWITTERIONS OF THE AMINO ACIDS. FACILITY: V. I. LENIN BVELORUSS. STATE UNIV., MINSK, USSR.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 622.7:622.343

BOCHAROV, V. A., KULIGIN, S. A., and ARZHANNIKOV, G. I.

"Extraction of Zinc and Gold From Ural Copper-Zinc Ores"

Moscow, Tsvetnyye Metally, No 10, Oct 70, pp 80-82

Abstract: This article deals with problems related to the extraction of Zn and Au from Cu-Zu ores by the method of collective-selective flotation at various Ural ore concentration plants. Zinc extraction varies between 44 and 69%, and its losses are ~25% in pyrite concentrates, and 10% in copper concentrates. Causes of zinc losses are discusses. Measures for improving the qualitative and quantitative concentration indices at various plants are outlined. It is stated that the extraction of Au from Ural ores presents even greater problems, and that despite new procedures increases in output have been insignificant. The causes of low Au output level are examined and the possibilities for increasing the output from compact pyrite ores are considered. The realization of a complex processing of pyrite concentrates (containing 1.5 g/ton Au) is one of the urgent problems.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--PROSPECTS FOR ADOPTING CYANIDE FREE TECHNOLOGY FOR CONCENTRATING COPPER ZINC ORES FROM THE URALS -U-

AUTHOR-(03)-FILIMONOV, V.N., BOCHAROV, V.A., ARZHANNIKOV, G.I.

COUNTRY OF INFO--USSR

SOURCE--TSVET. METAL. 1970, 43(4), 92-3

DATE PUBLISHED--------70

A

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOGRAPHIC LOCATION, COPPER ORE, ZINC, ORE BENEFICATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/1904 STEP NO--UR/0136/70/043/004/0092/0093

CIRC ACCESSION NO--AP0132166

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 007 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132166

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CYANIDE FREE BENEFICATION OF URAL CU,ZN ORES USING NA SUB2 S AND ZNSO SUB4 TOGETHER WITH SULFOXIDES AS DEPRESSORS UNDER LAB. CONDITIONS IS DESCRIBED. THE METHOD REDUCES THE CONSUMPTION OF REAGENTS BY LARGER THAN 20 KOPECKS PER TON OF PROCESSED ORE, IMPROVES THE QUALITY OF THE WASTE WATER, AND IMPROVES WORKING CONDITIONS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SOLVABILITY OF THE NONLINEAR BOUNDARY VALUE PROBLEM OF THE EXPONENTIAL TYPE IN THE THEORY OF ANALYTICAL FUNCTIONS -U-
AUTHOR--ARZHANOV, G.V.

COUNTRY OF INFO--USSR

SOURCE--KAZAN', IZVESTIYA VYSSHIKH UCHEBNYKH ZAVEDENIY, MATEMATIKA, NO 3, 1970, PP 3-5
DATE PUBLISHED--------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--BOUNDARY VALUE PROBLEM, ANALYTIC FUNCTION, NONLINEAR EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1261 STEP NO--UR/0140/70/000/003/0003/0005

CIRC ACCESSION NO--AT0131726
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0131726

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS ARTICLE CONTAINS AN INVESTIGATION OF THE FOLLOWING PROBLEM: DETERMINE THE FUNCTIONS PHI PRIME POSITIVE (Z) AND PHI PRIME NEGATIVE (Z) WHICH ARE ANALYTICAL IN THE DOMAINS D PRIME POSITIVE AND D PRIME NEGATIVE RESPECTIVELY, IN WHICH THE CURVE L DIVIDES THE PLANE (0 EPSILON D PRIME POSITIVE) ACCORDING TO THE BOUNDARY CONDITION (PHI PRIME POSITIVE (T)) PRIMEN EQUALS G(T) (PHI PRIME NEGATIVE (T)) PRIMEM PLUS G(T) MINUS (1) WHERE N, M ARE INTEGERS GREATER THAN OR EQUALS TO ONE, T EPSILON L. SOLVABILITY OF PROBLEM (1) IS INVESTIGATED FOR X EQUALS IND G(T) LARGER THAN OR EQUALS TO 0. IT TURNS OUT THAT UNDER THE GIVEN ASSUMPTIONS THIS PROBELM IS NOT ALWAYS SOLVABLE, AND THE PROPERTIES OF THE FUNCTION ARG G(T) BEGIN TO PLAY A DEFINITE ROLE. TWO THEOREMS REGARDING THE SOLVABILITY OF PROBLEM (1) ARE PROVED, AND AN EXAMPLE OF THE PROBLEM IS PRESENTED: SHOWN ON MICROFICHE. WHERE T SUB1 EQUALS 1, SERVE AS ITS SOLUTION.

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Functional Analysis

USSR A UDC 517.544

ARZHANOV, G. V.

"Solvability of the Nonlinear Boundary Value Problem of the Exponential Type in the Theory of Analytical Functions"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 3, 1970, pp 3-5

Abstract: This article contains an investigation of the following problem: determine the functions $\phi^+(z)$ and $\phi^-(z)$ which are analytical in the domains D^+ and D^- respectively, in which the curve L divides the plane ($0 \in D^+$) according to the boundary condition

$$[\phi^+(t)]^n = G(t)[\phi^-(t)]^m + g(t) \quad (1)$$

where n, m are integers greater than or equal to one, $t \in L$.

Solvability of problem (1) is investigated for $x = \text{ind } G(t) \geq 0$. It turns out that under the given assumptions this problem is not always solvable, and the properties of the function arg g(t) begin to play a definite role.

Two theorems regarding the solvability of problem (1) are proved, and an example of the problem is presented:

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USSR

ARZHANOV, G. V., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 3, 1970, pp 3-5

$[\Phi^+(t)]^4 = t^3[\Phi^-(t)]^4 + t(t -$

$- 1 - i)^{5/2}$. Such functions as $\Phi^+(z) = [C(z - t_1)(z - t_2)(z - t_3) + z(z-$

$- 1 - i)^{5/2}]^{1/4}$, $\Phi^-(z) = [Cz^{-3}(z - t_1)(z - t_2)(z - t_3)]^{1/4}$ where $t_1 =$

$= 1$, $t_2 = (1 + i)/\sqrt{2}$, and $t_3 = 1$ - serve as its solution.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC: 621.396.69:621.372.54

ARZHANOV, V. A., KOSTAREV, V. Ye, and KHAUSTOV, V. V.

"Electromechanical Filters and Delay Lines With Torsion Oscillations"

V sb. tr. Nauchno-tekhn. konferentsii prof.-prepodavat. sostava Vses. zaochn. elektrotekhn. in-ta svyazi (Transactions of the Scientific Conference of Professorial-Instructor Staff of the All-Union Correspondence Electrical Engineering Communications Institute) No. 5, Moscow, 1970, pp 83-86 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3V553)

Translation: The advantage of electromechanical over quartz filters is examined. For tuning electromechanical filters, a measurement circuit is recommended with compensation of the d-c component and positive feedback, made up of two transformers, the secondary windings of which are oppositely connected. Such a circuit can be used to measure the resonance frequencies of the mechanical resonators in the range of 90-150 kHz with an error of ± 2 Hz. Three illustrations, bibliography of one.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR
ARZHANYKH, I. S.

UDC: 517.947

"A Class of Maxwell Equation Solutions"

Tashkent, Izvestiya Akademii Nauk UzSSR--Seriya Fiziko-Matematicheskikh Nauk, No 5, 1972, pp 57-58

Abstract: The author proposes the application of the theory of analytic functions of the complexes

$$x = x_0 + \sum_{\sigma=1}^{s} x_\sigma \epsilon_\sigma, \quad \epsilon_\pi \epsilon_\rho = \delta^0_{\pi\rho} + \sum_{\sigma=1}^{s} \gamma^\sigma_{\pi\rho} \epsilon_\sigma \qquad (1)$$

to the integration of the Maxwell electromagnetic equations

$$\left.\begin{aligned} \frac{1}{c}\frac{\partial \vec{H}}{\partial t} + \operatorname{curl} \vec{E} = 0, \ \operatorname{div} \vec{H} = 0 \\ \frac{1}{c}\frac{\partial \vec{E}}{\partial t} - \operatorname{curl} \vec{H} = 0, \ \operatorname{div} \vec{E} = 0 \end{aligned}\right\} \qquad (2)$$

and their solution. The theory is a natural generalization of the theory of functions of a complex variable, and is especially valuable for solving equations of the type of (2). The author 1/2

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UDC: 517.947

ARZHANYKH, I..S., Izvestiya Akademii nauk UzSSR--Seriya fiziko-matematicheskikh nauk, No 5, 1972, pp 57-58

is connected with the V. I. Romanovskiy Institute of Mathematics, Uzbek Academy of Sciences.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 512.831

ARZHANYKH, I. S., GUGNINA, V. K., and LOGINOV, B. V., Institute of Mathematics imeni V. I. Romanovskiy, Academy of Sciences Uzbek SSR

"On a Generalization of the Hamilton-Cayley Theorem for Multiparameter Matrices and on Root Vectors of Polynomial Matrices"

Tashkent, Izvestiya Akademii Nauk Uzbekskov SSR, Seriya Fiziko-Matematicheskikh Nauk, No 5, 1971, pp 3-8

Abstract: Previous articles by the authors proved the Hamilton-Cayley theorem for polynomial matrices of the type $\phi(\lambda) = \lambda^s I - \lambda^{s-1}A_1 - \ldots - \lambda A_{s-1} - A_s$ where A_1, ..., A_s are square matrices of order n; I is an identity matrix; λ is a parameter. The present article generalizes this result for the case of several parameters λ_1, λ_2, ..., λ_m, then gives a natural definition of root vectors of polynomial matrices.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 512.831

ARZHANYKH, I. S., Institute of Mathematics imeni V. I. Romanovskiy, Uzbek SSR Academy of Sciences

"Direct Generalization of the Hamilton-Cayley Theorem"

Tashkent, Izv Akad Nauk Uzbek SSR, ser Fiz-Mat Nauk, No 2, 1971, pp 61-63

Abstract: As a continuation of previous research in the same field, this article generalizes the Hamilton-Cayley theorem for polynomial matrices, and then gives a direct generalization of this important theorem using matrix-complexes. Citing the theorem that quadratic matrices of identical order of magnitude satisfy the equation the author gives two examples in which the

$$(-1)^n SA_1A_2\cdots A_n +$$
$$+\sum_{\nu=1}^{n}\Delta_\nu SA_1\cdots A_{\nu-1}A_{\nu+1}\cdots A_n+\cdots+$$
$$+\sum_{\nu_1<\nu_2<\cdots<\nu_p}\Delta_{\nu_1\nu_2\cdots\nu_p}SA_1\cdots$$
$$\cdots A_{\nu_1-1}A_{\nu_1+1}\cdots A_{\nu_p-1}A_{\nu_p+1}\cdots A_n+\cdots$$
$$\cdots+\Delta_{23\ldots n}A_1+\Delta_{13\ldots n}A_2+\cdots$$
$$\cdots+\Delta_{12\ldots n-1}A_n+\Delta_{12\ldots n}I=0,$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

ARZHANYKH, I. S., Izv Akad Nauk Uzbek SSR, ser Fiz-Mat Nauk, No 2, 1971, pp 61-63

determinant is constructed and the identity is found. In the second example he takes three matrices of third order, constructs the determinant, and finds the identity. The author makes the comment that this same method is used to generalize the Hamilton-Cayley theorem for polynomial matrices. The author refers to only one bibliographic citation that is the basis of the present paper.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 517.53

ARZHANYKH, I. S., and DURDYYEV, KH., Physicotechnical Institute of the Academy of Sciences Turkmen SSR

"On Certain Generalizations of a Complex Variable"

Ashkhabad, Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No. 3, 1970, pp 21-25

Abstract: The laws of composition for rings in the theory of complexes developed by I. S. Arzhanykh are formulated. The structure of the theory of complexes is formulated in the following manner: let $x_0, x_1, \ldots, x_s$ be real variables and $\varepsilon_1, \varepsilon_2, \ldots, \varepsilon_s$ be certain elements satisfying the commutative and associative laws of composition

$$\varepsilon_i \varepsilon_k = \gamma_{ik}^0 + \sum_{l=1}^{s} \gamma_{ik}^l \varepsilon_l,$$

where γ_{ik}^k $(k=0, 1, \ldots, s;\ i, k = 1, 2, \ldots, s)$

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USSR

ARZHANYKH, I. S., and DURDYYEV, KH., Izvestiya Akademii Nauk Turkmenskoy SSR, Seriya Fiziko-Tekhnicheskikh, Khimicheskikh i Geologicheskikh Nauk, No. 3, 1970, pp 21-25

are real numbers. Distributiveness is assumed to be satisfied. The conjugate complex $\bar{x}$ and the characteristic $\chi[x] = x\bar{x}$ are introduced to carry out the division operation. Division in a ring of complexes is possible only on those complexes where the characteristic is different from zero. The conjugate complexes and characteristics are calculated for the rings $K_{-1} + K_{-1}$, $K_{-1} + K_{+1}$, $K_{-1} \times K_{-1}$, $K_{-1} + K_0$, $K_{-1} \times K_{+1}$, and $K_{-1} \times K_0$.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--OXYGEN THERAPY AND ENZYMATIC ACTIVITY IN OLD AGED PERSONS -U-

AUTHOR-(02)-ARZHANIKH, N.G., NEYKO, YE.M.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 4, PP 95-98

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TRANSFERRIN, OXYGEN THERAPY, ENZYME ACTIVITY, GERIATRICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1688 STEP NO--UR/0475/70/000/004/0095/0098

CIRC ACCESSION NO--AP0129058

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0129058
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CERULOPLASMIN AND TRANSFERIN INDICES HAVE BEEN STUDIED IN 45 OLD AGED PERSONS AND IN A CONTROL GROUP OF MIDDLE AND YOUNG AGED PERSONS. RESULTS INDICATE AN INCREASE OF CERULOPLASMIN WITH AGE. ENTERAL OXYGEN THERAPY IN OLD AGED PERSONS, STIMULATING METABOLISM, IMPROVED TO SUME EXTENT CERULOPLASMIN METABOLISM. INDICES OF BLOOD PLASMA TRANSFERIN STAURATION CHANGE LITTLE WITH AGE AND DO NOT SIGNIFICANTLY ALTER FOLLOWINC ENTERAL OXYGEN THERAPY. FACILITY: IVANO-FRANKOVSKOGO MEITSINSKOGO INSTITUTA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 681.327.64

ARZHEUKHOV, L. B.

"A Device for Correcting Errors in Digital Multichannel Magnetic Tape Storage Units"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311269, Division G, filed 29 Dec 69, published 9 Aug 71, p 179

Translation: This Author's Certificate introduces a device for correcting errors in digital multichannel magnetic tape storage units. The device uses redundant data coding and contains a buffer register, a coding and decoding unit, a correction unit, a shift counter, and a control module. As a distinguishing feature of the patent, multiple and group errors in words are corrected while maintaining code redundancy by connecting a unit for time expansion and compression of words between the coding and decoding unit and the channels for recording and playback of information from the magnetic tape. The inputs of the expander--compressor are connected respectively to the outputs of the flip-flops

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USSR

ARZHEUKHOV, L. B., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311269, Division G, filed 29 Dec 69, published 9 Aug 71, p 179

for the output digits of the main shift register and the remainder register of the coding and decoding unit and to the channels for playback of information from the magnetic tape, while the outputs of the expander-compressor are connected respectively to the inputs of the flip-flops for the output digits of the main shift register and to the channels for recording information on the magnetic tape. The expander-compressor is also connected to the shift counter and the control module.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 621.396.969

ARZHEUKHOV, L. B.

"A Device for Reproducing Binary Information From a Magnetic Medium"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 5, Feb 72, Author's Certificate No 327605, Division H, filed 14 Apr 70, published 26 Jan 72, p 170

Translation: This Author's Certificate introduces a device for reproducing binary information from a magnetic medium. The device contains a gating pulse module, linear amplifiers and strobing shaper-limiters. As a distinguishing feature of the patent, the probability of false reproduction is reduced by connecting linear switches across the outputs of the elements. These switches are connected to minimum and maximum noise discrimination stages, and the outputs of these stages are connected to a weighted summation stage which controls the threshold of formation of reproduction signals. The minimum signal discrimination stage contains elements connected in parallel for fixing the level of the signals at adjacent strobing points. These elements are periodically reset to zero.

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USSR

UDC: 621.384.6.5

ARZUMANOV, A. A., NEMENOV, L. M., ANISIMOV, O. K., BATALIN, S. S., VOLKOV, B. A., GROMOV, D. D., KRAVCHENKO, Ye. T., KRUGLOV, V. G., NIGMATOV, M. Kh., POPOV, Yu. S., PROKOV'YEV, S. I., and RYBIN, S. N.

"Isochronic Cyclotron With Controllable Ion Energy"

Alma-Ata, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4, 1973, pp 6-15

Abstract: A discussion of the isochronic cyclotron with controllable ion energy built around the U-150-2 accelerator installed in the Institute for Nuclear Physics of the Kazakh SSR Academy of Sciences in 1965 is given. Calculations of the fundamental parameters made with an electronic computer are presented, together with the results of a theoretical analysis, a large part of which was based on approximation methods. These results were verified by a numerical method. The description is given of a program developed for investigating and modeling the magnetic field on a mock-up with a scale of 1:3. An outline drawing of the magnetic arrangement is given, along with curves of the magnetic field. The current correction for the magnetic field is explained, with an illustrative photograph of the correction winding. Also discussed are the

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USSR UDC: 631.384.6.5

ARZUMANOV, A. A., et al, Izvestiya AN KazSSR--Teriya Fiziko-matematicheskaya, No 4, 1973, pp 6-15

high-frequency system and the slit-type ion source, the ions entering the accelerator chamber radially. Curves for the change in beam intensity for accelerated alpha particles are plotted as a function of the accelerator radius. A photograph of the area of installation, showing a beam of protons in air with an energy of 30 Mev, is reproduced together with a photograph of the equipment itself.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 612.821.2+612.822.3

KOSTANDOV, E. A. and ARZUMANOV, Yu. L., Central Scientific Research Institute of Forensic Psychiatry imeni V. P. Serbskiy, Moscow

"The Role of Association in the Development of Evoked Potentials in the Human Cerebral Cortex"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 23, No 3, May/Jun 73, pp 523-531

Abstract: Fourteen 20-45-year-old adults were used in a study of the characteristics of evoked electrical activity in the cortex in response to pairs of visual stimuli, presented with a 1-second pause between them. The stimuli were representations of (1) an arrow and (2) a word with a neutral or an emotional connotation. The subjects were required to respond differently to each stimulus. It was found that when meaningful visual stimuli were repeatedly presented in succession, the average potential evoked by the second stimulus had a short latent phase and was often registered before the stimulus was presented. The average potentials evoked in the visual cortex by an arrow combined with an "emotional" word developed earlier, with a higher amplitude in the late positive potential, than when the arrow preceded a "neutral" word; no analogous difference in cortical activity was observed in

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KOSTANDOV, E. A. and ARZUMANOV, Yu. L., Zhurnal Vysshey Nervnoy Deyatel'nosti, Vol 23, No 3, May/Jun 73, pp 523-531

the area of the vertex. A temporary direct and inverse relationship was observed between changes in potentials that are evoked by stimuli between which an association has been established.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 612.822.3

KOSTANDOV, E. A., and ARZUMANOV, YU. L., Central Scientific Research Institute of Forensic Psychiatry imeni V. P. Serbskiy, Moscow

"Dependence of Conditioned Slow Negative Potentials of the Human Cerebral Cortex on Motivation and Emotion"

Moscow, Zhurnal Vysshey Nervoy Deyatel'nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 679-687

Abstract: Conditioned slow negative cortical potentials (CNV, identical with Walter's contingent negative variations) were recorded from the occiput of healthy subjects during 1-sec intervals between two stimuli. The first stimulus (a sound) was a warning, while the second stimulus (a "neutral" word flashed on the screen) was a command to depress a key. The tests were done under conditions of different motivations: a) the subject was simply instructed to press the key, b) he was emphatically requested to perform this action fast, and c) he was promised and subsequently given a piece of chocolate candy for each fast action; and in a state of anxiety: he was given an electric shock for each slow action. In the presence of motivation, the CNV significantly increased and the reaction time diminished. The increase in CNV magnitude was proportional to the degree of motivation. The smallest CNV were observed in the 1/2

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KOSTANDOV, E. A. and ARZUMANOV, YU. L., Zhurnal Vysshey Nervnoy Deyatel' nosti imeni I. P. Pavlova, Vol 22, No 4, Jul/Aug 72, pp 679-687

state of anxiety, indicating that negative emotional experience exerts a depressing effect. No special correlation was found between the magnitude of the CNV and the duration of the reaction time. It is believed that the CNV is associated with the mechanism of short-time memory in which the limbic system activates the thalamic-cortical system of selective attention.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 612:822.3+615.5

KOSTANDOV, E. A., and ARZUMANOV, YU. L., Central Scientific Research Institute of Forensic Psychiatry imeni V. P. Serbskiy, Moscow

"Changes in Cortical Evoked Potentials in Response to Emotional Visual Stimuli in Man Under the Influence of Amizil"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti imeni I. P. Pavlova, Vol 21, Vyp 6, Nov/Dec 71, pp 1,247-1,255

Abstract: In a previous work, the authors discovered that visually presented stimuli having a positive emotional content for the subject caused an increase in the amplitude and a shortening of the latent period of the late positive component of the subject's averaged evoked potentials. In this article they verified their hypothesis that these changes, which were observed in the visual zone of the cortex but not in the vertex, were caused by additional impulsation from the limbic structures of the brain, which integrate emotional reactions. Their hypothesis was confirmed by the fact that the administration of amizil, a drug which inhibits the cholinergic mechanism of the limbic system, temporarily eliminated the difference in the subjects' responses to positive emotional and neutral stimuli.

The authors also investigated the effect of amizil on the psychophysiological recognition thresholds of neutral and emotional stimuli. In all of the subjects tested, the two thresholds differed considerably under normal circumstances. However, in some of the subjects, the administration of amizil eliminated this difference. 1/1

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 612.822.3+621.843.7

KOSTANDOV, E. A. and ARZUMANOV, Yu. L., Central Research Institute of Forensic Psychiatry imeni V. P. Serbskiy, Moscow

"Averaged Evoked Potentials of the Human Cortex in Response to Emotional Visual Stimuli"

Moscow, Zhurnal Vysshey Nervnoy Deyatel'nosti, No 4, 1971, pp 811-819

Abstract: Evoked potentials were studied in 10 adult psychopaths in response to the appearance on a screen of single "neutral" or "emotional" words relating to a severe current conflict situation in their lives. A late positive wave with a latency of about 300 msec (P_{300}) proved to be the most regular component of the evoked cortical potentials in response to the verbal stimuli. A late positive wave of greater amplitude was derived from the occipital region in response to emotionally charged words; the latent period was shorter than when neutral stimuli were used. In the region of the vertex, no significant difference was noted in the parameters of the evoked potential regardless of the nature of the verbal stimuli.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC: 621.391.883.2

ARZUMANYAN, Yu. V.

"Interference Immunity of a Structural-Correlation Filter in a Channel With Spectrally Lumped and Fluctuation Interference"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 1 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works, No 1), Leningrad, 1971, pp 35-40 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3A30)

Translation: The paper deals with questions of the interference immunity of a proposed algorithm for the case of monoharmonic interference with unknown parameters. Results are presented from an experimental study of a situation where a solution is found for the problem of detecting a completely known variant of a signal against a background of quasideterministic and fluctuation interference. Resumé.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 621.372.061

PLOTKIN, Ye. I., ARZUMANYAN, Yu. V.

"Nonlinear Structural Filter Under the Effect of Oscillations of Complex Shape"

Materialy nauchno-tekhn. konferentsii Leningr. elektrotekhn. in-t svyazi. Vyp 2 (Materials of the Scientific and Technical Conference. Leningrad Electrotechnical Communications Institute. Vyp. 2), Leningrad, 1970, pp 7-12 (from RZh-Radiotekhnika, No 8, Aug 70, Abstract No 8A140)

Translation: This article contains an analysis of the operation of a nonlinear structural filter which is under the effect of deterministic and stochastic signals. It is demonstrated that the filter has a number of peculiarities distinguishing it from known nonlinear converters.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 612.822.014.424

ASARAYEV, CH., Laboratory of Radiofrequency Electromagnetic Radiation, Institute of Labor Hygiene and Occupational Diseases, Academy of Medical Sciences USSR and Laboratory of Electrophysiology of Conditioned Reflexes, Institute of Higher Nervous Activity and Neurophysiology, Academy of Sciences USSR, Moscow

"Threshold Sensitivity of the Rabbit Brain to Pulses of Super-High Frequency Electromagnetic Fields"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 74, No 7, 1972, pp 56-59

Abstract: The threshold of sensitivity of the rabbit central nervous system to pulses of super-high frequency electromagnetic radiation was studied by using 20 rabbits with silver wire electrodes implanted in the calvarium overlying the sensorimotor and visual cortex areas and reference electrodes in the nasal bones. Four-channel EEG recordings were used to assess changes in CNS activity. Fields of 2 mw/cm^2 intensity produced no EEG change during a 3 minute irradiation period, while fields of 10 and 250 mw/cm^2 cm produced an increase in slow waves and spindles. The latency period of the observed reaction decreased with increased intensity.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC: 621.317.616(088.8)

ASABIN, A. P. and KUNDEL', L. K.

"Panoramic Device for Measuring Frequency Characteristics With Raster Scanning"

Avt. sv. SSSR (Author's certificate USSR) Class 21e, 36/03; (G 01 r 23/14), No. 269296, Application 6.02.69, Publication 6.08.70 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3A404P)

Translation: A panoramic device is proposed for measuring frequency characteristics with raster scanning, consisting of a comparator, a summing circuit, and a cathode-ray tube. In the proposed device, for the purpose of simplifying its circuit and increasing the accuracy of measurement, a step-voltage generator with a decoder whose output is connected to the measuring device CRT through the summing circuit, is itself connected to one of the comparator inputs. E. L.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC:[537.226+537.311.33]:[537+535]

KULIYEV, A. Z., OKHOTIN, A. S., ASADOV, D. A., and KAKHRAMANOV, K. Sh.

"Effect of Deformation on the Thermoelectrical Characteristics of Bi_2Te_3-Bi_2Se_3"

V sb. Teplofiz. svoystva tverd. tel (Thermophysical Characteristics of Solids--collection of works) Kiev, Nauk. dumka, 1971, pp 30-33 (from RZh-Fizika, No. 11, 1971, Abstract No. 11E1075)

Translation: The effect of external, single-sided pressure (up to 250 kg/cm^2) on the electrical conductivity (σ), the thermal emf coefficient (α), and the thermal conductivity (κ) of a solid solution of n-type 80% Bi_2Te_3-20% Bi_2Se_3 are investigated in the temperature interval of 300-500° K. It is established that at 300° K, with an increase in load from 0 to 100 kg/cm^2, σ increases linearly to more than double its value. With elevations in temperature, this type of sharp increase in σ is not observed. The change in α did not exceed 10%. An increase in κ is also observed with increasing deformation, reaching a maximum at 100 kg/cm^2. The reduction of σ and κ at pressures >100 kg/cm^2 is explained by electron and phonon dispersion in the defects formed.G. I. Makovetskiy.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--RHYTHMIC NATURE OF THE GROWTH OF A NEW PHASE IN POTASSIUM NITRATE -U-

AUTHOR-(02)-ASADOV, YU.G., NASIROV, V.I.

A

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(6), 1280-1

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--POTASSIUM NITRATE, CRYSTAL GROWTH

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1259 STEP NO--UR/0020/70/191/006/1280/1281

CIRC ACCESSION NO--AT0138270

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 015 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AT0138270

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MORPHOLOGY OF THE POLYMORPHIC TRANSFORMATION IN KNO SUB3 WAS STUDIED. THE HIGH TEMP. BETA PHASE KNO SUB3 CRYSTALS GROW RHYTHMICALLY FROM THE LOW TEMP. ALPHA PHASE; SUCH A GROWTH PROCESS INVOLVES TRANSITION OF THE ALPHA TO THE BETA PHASE BY DISCRETE, COMPLETELY IDENTICAL LAMELLAS. THE D. OF ALPHA AND BETA CRYSTALS DIFFERS CONSIDERABLY, P SUBALPHA MINUS P SUBBETA EQUALS 0.117 G-CM PRIME3. THE BETA CRYSTALS NUCLEATE INSIDE THE ALPHA CRYSTALS AND GROW AT A HIGH RATE ALONG (100) DIRECTION. BECAUSE THE TRANSITION OCCURS ONLY AT T GREATER THAN OR EQUALS TO T SUBO (127DEGREES), THE CONTACT BETWEEN LAMELLAS IS NOT BROKEN, NEW NUCLEI OF BETA PHASE ARE FORMED, AND GROWTH OF BETA CRYSTALS IS CONTINUED. FACILITY: INST. FIZ., BAKU, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 539.3:534.1

ASADULLIN, G. E.

"The Stability of Elastic Truncated Conic Shells During the Simultaneous Action of External Pressure and Cantilever Deflection"

Kazan' Sb. Aspirantsk. Rabot. Kazan. Un-t Tochn. Nauki, Mekh. Fiz. (Collection of Graduate Students' Works, Kazan' University. Exact Sciences, Mechanics, Physics), 1971, pp 41-44 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V271 by V. p. Mal'tsev)

Translation: A study is made of a conical shell, bracket-fastened at the larger base abd loaded by an external pressure; to the center of the smaller base is applied a force lying in the plane of the base. It is assumed that the critical combination of the bending force and the external pressure, at which the conical shell loses stability, may be written as follows:

$$(P/P_{kp})^a + (q/q_{kp})^b = 1$$

$$q_{kp} = cE\,(h/r_1)^{3/2}(\operatorname{ctg}\gamma)^{3/2}(1-\nu^2)^{-3/4}$$

$$P_{kp} = 2\pi r_0 \sin\gamma \frac{Eh}{(1-\nu^2)^{3/4}} \left/ \frac{h}{r_0 \operatorname{tg}\gamma}\right)^{5/4} \left(\frac{r_0 \operatorname{tg}\gamma}{l}\right)^{1/2} \times$$

$$\times\left[0.20 + 0.1g\frac{l}{r_0} - 0.022 + \left(\frac{l}{r_0}\right)^2\right]$$

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USSR

ASADULLIN, G. E., Sb. Aspirantsk. Rabot. Kazan' Un-t. Tochn. Nauki, Mekh, Fiz., 1971, pp 41-44

Here E is the Young Modulus; ν is the Poisson coefficient; H is the thickness, L is the length of the generatrix; 2γ is the angle at the vortex of the cone; P, q is the bending force and the external pressure; P_{kp}, q_{kp} is their respective critical value during isolated action; r_0 and r_1 is the distance from the vortex of the cone along the generatrix to the smaller base and to the larger base. The values of parameters c, a, b are found experimentally. For the experimental study the shells were made by point welding from sheet 0.28 mm thick and had the following parameters; $r_1/r_0 = 3.33$, $2\gamma = 30°$. Six shells were tested in the presnece of external pressure. After processing of the results of these experiments, the parameter c was considered as equalling 2.2. Ten shells were tested for the combined action of flexure and external pressure. On the basis of the obtained experimental data, it is recommended to assume that $a = b = 2$.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 539.3:534.1

ASADULLIN, G. E., and ZALALDINOV, F. Z.

"The Stability of Elastic Cylindrical Shells With the Simultaneous Action of Deflection and Axial Compression"

Kazan', Sb. Aspirantsk. Rabot. Kazan. Un-t Tochn. Nauki. Mekh. Giz. (Collection of Graduate Student's Works. Kazan' Univeristy. Exact Sciences, Mechanics, Physics,), 1971, pp 26-34 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V275 by V. V. Kabanov)

Translation: Within the framework of the theoretical and experimental method of A. V. Sachenkov (Collection of Research Works on the Theory of Plates and Shells. No 6-7 Kazan', Kazan' University, 1970, pp 391-433, RZhMekh, 1971, 3V395), an investigation is made of the stability of a bracket-fastened circular cylindrical plate, loaded on the free edge, through a rigid frame, by a transverse force and a longitudinal force. The inhomogeneous zero-moment initial stressed state of the shell is replaced by a homogeneous one, so that the problem is reduced to the problem of stability of the shell during combined loading by uniform torsion and axial compression. The coefficients in the equation which determines the stability boundary are obtained from an experiment with 24 shells, made by electric point welding from sheet steel Kh18N9. Scattering of the experimental values of the critical load comprised 2-12%.

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. USSR .

ASADULLIN, G. E., SACHENKOV, A. V.

"Elastic Stability of Cantilever Conical and Cylindrical Envelopes in Bending"

Sb. Aspirantsk. Rabot. Kazan. Un-t. Tochen. Nauki, mekh., Fiz. [Collection of Graduate Papers of Kazan University, Precise Sciences, Mechanics, Physics], Kazan', 1971, No 1, pp 3-10, (Translated from Referativnyy Zhurnal, Mekhanika, No 4, 1972, Abstract No 4 V395 by V. P. Mal'tsev).

Translation: Envelopes made by spot welding type Kh18N9 steel strip are used in an experimental study of stability during bending of cantilever conical envelopes fastened at the large base. A transverse force in the same plane as and passing through the center of circularity of the base is applied to the small base. Conical envelopes with tip angles of 0, 30, 45, 60 and 90° were tested. Parameter r_1/r_0 was varied from 1.25 to 6.67 (where r_1 and r_0 are the distance from the tip of the cone along the generatrix to the larger and smaller bases). Analysis of the equations and experimental data produced for critical bending force results in the following recommended formula:

$$P_{kr} = \pi E h^2 \cos\gamma\,(1-\nu^2)^{-5/8}\sqrt{hr_0 \lg\gamma_1 (r_1-r_0)^2} \times$$
$$\times (0.58 + 0.40\sqrt{r_1/r_0 - 1})$$

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

ASADULLIN, G. E., SACHENKOV, A. V., Sb. Aspirantsk. Rabot. Kazan. Un-t. Tochen. Nauki, mekh., Fiz., Kazan', 1971, No 1, pp 3-10.

where E is the Young modulus, ν is Poissons coefficient, γ is the half-aperture angle of the cone, h is the thickness of the envelope.

It is noted that where $\lambda = (r_1 - r_0)/r_0 < 4$, the envelope loses stability with the formation of a group of inclined waves in the zones of greatest shear forces. Where at $\lambda = 4$, in addition to the shear form of convecity, rhombic waves are formed, characteristic for the loss of stability due to axial compression. Further increases of λ cause this form of loss of stability to become predominant.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC: 621.316.84

ZLATOUSTOV, S. V., OSTROVA, S. O., and ASADULLINA, V. R.

"Measuring Current Noise in Quality Control of Thin-Film Resistors"

Kiev, Izvestiya VUZ -- Radioelektronika, Vol. 13, No. 9, 1970, pp 1124-1128

Abstract: In view of the fact that resistors comprise about 30-40% of all the components in most electronic circuitry and that they are growing smaller with advances in miniaturization, their quality control is important. This article gives the results of experiments performed to find a relationship between the current noise level of thin-film resistors and their quality, and whether use of current noise level as an index to the reliability of resistors is justified. A block diagram of the noise meter circuit is shown. This version had to be used in place of standard equipment for measuring resistor noise since standard equipment has insufficient sensitivity for resistors with such low power ratings.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

ZLATOUSTOV, S.V., et al, Izvestiya VUZ - Radioelektronika, Vol 13, No 9, 1970, pp 1124-1128

The authors' analysis of the results of the experiment showed a high correlation between resistor noise and quality, with the noisiest resistors exhibiting the poorest quality, to the extent that the reliability of resistors can be predicted on the basis of their showing in this test. In these experiments, the noise level was measured in microvolts per volt of applied voltage in a band of 10 kHz. The authors conclude that 100% control can be attained in control automation using the modulation noise meter they propose in thin-film resistor assembly line manufacture.

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1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--KINETICS OF CATION ADSORPTION FROM SOLUTIONS OF LOW CONCENTRATIONS BY ANION EXCHANGERS BASED ON POLYETHYLENEPOLYAMINES -U-

AUTHOR-(05)-ASANBADZE, G.D., KOPYLOVA, V.D., SALDADZE, K.M., GINTSBERG, E.G., KOVARSKAYA, B.M.

COUNTRY OF INFO--USSR

A

SOURCE--ZH. FIZ. KHIM. 1970, 44(1), 257

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANION EXCHANGE RESIN, COPPER, COBALT, NICKEL, CATION, POLYETHYLENE, POLYAMINE, DIFFUSION COEFFICIENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1989/0473 STEP NO--UR/0076/70/044/001/0257/0257

CIRC ACCESSION NO--AP0107079

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0107079

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADSORPTION OF CU PRIME2 POSITIVE, CO PRIME2 POSITIVE, OR NI PRIME2 POSITIVE CATIONS ON THE TITLE EXCHANGER BELOW 25DEGREES IS GOVERNED BY THE DIFFUSION RATE INTO THE EXCHANGER GRAINS. ABOVE 35DEGREES AND GREATER THAN OR EQUAL TO 0.001M CATION CONCN. THE DIFFUSION INTO THE EXCHANGER GEL PARTICLES IS THE PREDOMINANT FACTOR. THE DIFFUSION COEFFS. ARE 4.57 TIMES 10 PRIME NEGATIVE9, 5.27 TIMES 10 PRIME NEGATIVE9, OR 6.4 TIMES 10 PRIME NEGATIVE9 CM PRIME2-SEC FOR CU PRIME2 POSITIVE, OR N PRIME2 POSITIVE, RESP.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EFFECT OF THE ICN COMPOSITION OF ANION EXCHANGERS ON THE ADSURPTION OF CATIONS -U-

AUTHOR-(03)-KOPYLOVA, V.D., SALOADZE, K.M., ASAMBADZE, G.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1074-9

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ANION EXCHANGE RESIN, ADSORPTION, POLYETHYLENE, AMINE DERIVATIVE/(U)AN31 ANION EXCHANGE RESIN, (U)EDE10P ANION EXCHANGE RESIN, (U)ANZF ANION EXCHANGE RESIN, (U)AV16 ANION EXHANGE RESIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/2031 STEP NO--UR/0078/70/015/004/1074/1079

CIRC ACCESSION NO--AP0132288

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0132268

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPTS. WERE MADE ON POLYETHYLENE POLYAMINE ANION EXCHANGERS AN-31, EDE-10P, AN-2F, AND AV-16. INCREASED CONCN. OF THE HYDRATE FORM OF THE AMINO GROUPS IN THE EXCHANGERS CAUSES INCREASED SORPTION OF CATIONS DUE TO THE EQUIL R SUB3 NH PRIME POSITIVE PLUS HOH IN EQUILIBRIUM R SUB3 N, HOH PLUS H PRIME POSITIVE. FORMATION OF COORDINATION COMPLEXES BETWEEN CATIONS AND AMINO GROUPS CAUSES A MARKED DECREASE OF SOLN. PH.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 15.541.64.661.723 - 16.678.743

ASAMOV, M. K., MUSAKHANOVA, S. M., and TKACHENKO, A. A., Tashkent Order of the Red Banner of Labor State University imeni V. I. Lenin

"Radiation Grafting of Vinylidene Fluoride on Polyvinyl Chloride From a Liquid Phase in Presence of 1,1-Dichloroethane"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 6, 1973, pp 31-32

Abstract: Vinylidene fluoride was grafted from a liquid phase onto polyvinylchloride by the radiation method in presence of 1,1-dichloroethane. It was established that the polymerization rate is directly proportional to the dose strength. Grafting vinylidene fluoride onto polyvinyl chloride improves fire retardant properties of the grafted copolymers, making them also resistant to organic solvents.

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USSR UDC [537.226+537.311.33]:[537+535]

ZAVADOVSKAYA, YE. K., DZHAPAROV, R. D., ASANBAYEVA, D. A.

"Dielectric Losses in Nonequilibrium Alkali-Halide Solid Solutions"

Izv. Tomsk. politekhn. in-ta (News of Tomsk Polytechnical Institute), 1970, Vol. 180, pp 149-153 (from RZh Fizika, No 12, Dec 71, Abstract No 12Ye1148)

Translation: The effect of the decay of ionic solid solutions of NaCl-KCl and NaBr-KBr on their dielectric losses and electrical conductivity is explained. The absorption spectra are measured in the region of F-center absorption.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

ASANOV, R. A., Joint Institute of Nuclear Research

"Example of a Closed Universe With Sources of a Massless Scalar Field"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, Vol 2, No 3, Mar 70, pp 289-291

Abstract: An example of a homogeneous isotropic closed universe filled with dust-like material without pressure and with a scalar massless field with sources is constructed. In the discussion of the problem of the possibility of constructing a closed universe in the presence of different fields interacting with matter, it is noted that the presence of an electric charge prevents the formation of a spherical closed configuration. The situation is said to be basically different in the case of a scalar field primarily because of the absence of a law for the conservation of the corresponding charge; the scalar field also makes a negative contribution to the mass of the source, so that it might be expected that the scalar field will not prevent the formation of a closed universe. Expressions are obtained for the equation of the scalar field and the density of sources of the scalar field. Analysis of these expressions indicates that a scalar field with mass will not prevent the formation of a closed universe.

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USSR

UDC 519.21

ASANOVA, M. I.

"Methods of Orthogonalization During Solution of Problems in the Course of the Theory of Probabilities"

Sb. Statey po Mat. Chelyabinsk. gos. ped. In-t [Collected Articles on Mathematics, Chelyabinsk State Pedagogics Institute], No 2, 1970, pp 204-211, (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V3 by V. Prelov).

Translation: The possibility is illustrated of using the apparatus of mathematical logic (in particular, of using the ideas of orthogonalization of logical algebra functions) to solve certain problems in the elementary theory of probabilities.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

UDC 519.21

ASANOVA, M. I.

"Methods of Orthogonalization During Solution of Problems in the Course of the Theory of Probabilities"

Sb. Statey po Mat. Chelyabinsk. gos. ped. In-t [Collected Articles on Mathematics, Chelyabinsk State Pedagogics Institute], No 2, 1970, pp 204-211. (Translated from Referativnyy Zhurnal, Kibernetika, No 6, 1971, Abstract No 6 V3 by V. Prelov).

Translation: The possibility is illustrated of using the apparatus of mathematical logic (in particular, of using the ideas of orthogonalization of logical algebra functions) to solve certain problems in the elementary theory of probabilities.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

ALIKHANYAN, A. I., ASATIANI, T. L., AVAKYAN, K. M., ZHIROVA, L. A., IVANOV, V. A., KRISHCHYAN, V. M., MATEVOSYAN, E. M.

"Measurement Accuracy of Charged Particle Pulses in Wide-Gap Spark Chambers"

Moscow, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61, No 4(10), Oct 71, pp 1273-1275

Abstract: The purpose of this article is to show how the accuracy of these pulse measurements can be improved. Corrections which must be made to achieve this accuracy are based on results obtained in an earlier paper (A. I. Alikhanyan, et al, 12-ya Mezhdunarodnaya konferentsiya po fizike vysokikh energiy -- Twelfth International Conference on High-Energy Physics -- Dubna, 1964, 2, Atomizdat, 1966, p 303) and were derived from new equipment with better parameters. These involved a reduction in the total delay time of up to 230 ns for applying the high-voltage pulses to the chamber, a reduction of up to 2 ± 0.5 ns in the rise time of the high-voltage pulse, and a high degree of electric field uniformity at the edges of the chamber through the use of distributed resistances and capacitances. Tables of the characteristics of various types of chamber are given. Analysis of the errors shows that
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USSR

ALIKHANYAN, A. I. et al, Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 61, No 4(10), Oct 71, pp 1273-1275

the measurement accuracy of the new equipment is limited by the optical distortion. A table of corrections for these distortions is provided. Gratitude is expressed to V. N. Semenyushkin, N. I. Novikov, A. F. Pisarev, Yu. V. Kulikov, L. N. Strunov, and I. N. Golutvin for performing the required experiments in the OIYaI (Joint Institute of Nuclear Research). The authors are associated with the Yerevan Physical Institute.

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AP9049814 UR 0431

PRIMARY SOURCE: Izvestiya, AN ArmSSR. Fizika, Vol 4, Nr 1, pp 53-57

THE FLUCTUATIONS OF THE TRACK BRIGHTNESS IN THE STREAMER CHAMBER

T. L. ASATIANI, K. A. GAZARIAN, W. N. IMIROW, W. A. IVANOV, A. A. NAZARIAN

The analysis of he fluctuations of streamer track brightness is presented. It is shown that these fluctuations are mainly related to the energy losses ionization. Method of identification of fractionaliy charged particles and multy-charged nuclei by counting the number of electrons on the streamer track is proposed.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

ASATIANI, V.S.

Pharmacology + Chemistry

28 May 71 19 FTD:ROVIET SCIENCE

16. USSR

Our Green Sanitation Workers"

Moscow, Pravda, 31 Jan 71, p 3

Abstract: This article reviews and discusses the work of the Georgian Laboratory of Plant Biochemistry, headed by Academician S. V. Durmishidze. They have studied the qualities for more than 100 higher plants. Some, such as tomatoes and cabbage, have an useful features for cleaning the air, whereas others, such as the field maple, wild Caucasian pear, and Canadian poplar, are capable of removing phytoncidal quantities of harmful hydrocarbons and derivatives from the air (for example, up to several dozen milligrams of benzene per kilogram of wet leaves in a day). Using tracer atoms, it has been established that plants can capture aldehydes, ketones, some acids, alcohols, ethers, and aromatic components of ether oils. Data show that plants do have the necessary fermentation systems to break down aromatic hydrocarbons. Research is now going forward to find if plants can remove such carcinogenic substances as benzopyrene from the air.

In a quote, Director of the Georgian Institute of Geography [illegible] mentions the universality of air pollution, the great hope that plant defenses offer [illegible], and the precautions that engineers and architects must still have a major duty to cut down on emissions from industrial units. Director of the Georgian Institute of Pharmacology and Chemistry [illegible] stated he was

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Pravda, 31 Jan 71, p 3

pleased with Durmishidze's work, and hoped that they would also investigate plant processes which give off cancerogenic substances. Director of the Georgian Institute of Botany N. N. Kekelidzeli pointed out that, despite the clear findings of Durmishidze's research, residents of Tbilisi, who are engaged in a good deal of planting, are planting the wrong kinds of trees. He gives the example of the plane tree, the fluff from which plugs ventilation systems and causes allergic reactions; he proposes that the maple, with its strong air-cleansing features, should be planted much more widely.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

1/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--CHANGES IN ATPASE ACTIVITY IN ATHEROSCLEROTIC RABBITS -U-

AUTHOR-(05)--ASATIANI, V.S., KARCHKHADZE, R.G., SHAMKULASHVILI, G.G., DZHUGELI, T.S., SILAGADZE, L.S.

COUNTRY OF INFO--USSR

SOURCE--SOOBSHCH. AKAD. NAUK GRUZ. SSR 1970, 57(2), 469-72

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ATHEROSCLEROSIS, RABBIT, MITOCHONDRION, ENZYME ACTIVITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/0212 STEP NO--UR/0251/70/057/002/0469/0472

CIRC ACCESSION NO--APC135708

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

2/2 014 UNCLASSIFIED PROCESSING DATE--11DEC70
CIRC ACCESSION NO--AP0135708
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN RABBITS THE HIGHEST ATPASE ACTIVITY IS IN THE MITOCHONDRIA OF CARDIAC MUSCLE. ON COMPARING VARIOUS IONS (K, NA, MG, CA), ONLY MG ACTS AS AN ACTIVATOR OF ATPASE IN HEART, BRAIN, AND LIVER. IN ATHEROSCLEROTIC RABBITS, THE ATPASE ACTIVITY IS LOWER IN MITOCHONDRIA BUT HIGHER IN THE SUPERNATANT FRACTION.
FACILITY: TBILIS. GOS. MED. INST., TBILISI, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

Radiation Chemistry

USSR UDC 541.15

ASATOV, KH., DZANTIYEV, B. G., SHISHKOV, A. V., Institute of Chemical Physics of the USSR Academy of Sciences, Order of the Red Banner of Labor Institute of Cybernetics with the Computation Center of the Uzbek SSR Academy of Sciences

"Radiolysis of the Nitrogen-Propylene System. Formation of Nitrogen-Containing Products"

Tashkent, Uzbekskiy Khimicheskiy Zhurnal, No 3, 1972, pp 50-53

Abstract: A study was made of the gamma-radiolysis of the binary nitrogen-propylene system at a pressure of 760 mm Hg, for a dosage of $\approx 10^{13}$ electron volts/cm^3·sec and variation of the system composition (1-90% C_3H_6), the temperature (20-285°) and the absorbed dose within broad limits. HCN and CH_3CN were identified among the nitrogen-containing products.
The radiation chemical yields of HCN and CH_3CN depend extremally on the composition of the $N_2C_3H_6$ system, reaching a peak at 1-5 and 20% C_3H_6 respectively. The generation rate of N atoms during radiolysis of molecular nitrogen in the presence of C_3H_6 is 0.9-1.0 1/100 electron volts.

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ASATRYAN, R.

State Standards

ENVIRONMENTAL INFORMATION

JPRS 56876
24 AUG 72

INSPECTOR SCORES YEREVAN AIR POLLUTION

//Article by R. Asatryan, Deputy Chief of the Armenian Republic Administration of State Standards Committee//
Yerevan, Kommunist, Russian, 20 July 1972, p 2

Among the tens of thousands of state norms in effect in the USSR there are hundreds to protect the health of the people.

Today we will discuss briefly the standards prevailing for clean air in the large cities.

A decree of the USSR Council of Ministers Goststandart approved a normative establishing the carbon monoxide norm for motor vehicle emission levels. It went into effect on 1 January 1972.

The state standard is obligatory for all, and failure to comply with it will result in prosecution under the law. Let us examine how this standard has been introduced and is being observed.

In March of 1972, we ran a check at large motor vehicle establishments like the No 1 and No 2 taxi motor transport enterprises in Yerevan. About 200 Volga taxis, old and new, were checked. As a result, it was noted that for 60 percent of them, the emission gas carbon monoxide level exceeded the norm four-fold.

In addition to the indicated motor vehicle establishments, our co-workers, together with the republic state motor vehicle inspection agencies, also inspected other motor vehicle establishments of Yerevan during the spring technical inspection, and it was established that the emission gas level among the vehicles checked was two-fold and more higher than the permissible norms.

Thus, it was disclosed during the initial check that 55 percent of the vehicles using gasoline engines were discharging an impermissible amount of harmful substances (carbon monoxide, nitrogen peroxide) into the air.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 627.152.12+551.482.32

ASATRYAN, R. G., Armenian Scientific Research Institute of Water Problems and Hydraulic Engineering

"Experimental Study of the Critical Transporting Capacity of a Two-Phase Flow in a Rigid Channel"

Yerevan, Izvestiya Akademii nauk Armyanskoy SSR, Seriya tekhnicheskikh nauk, No. 4, 1971, pp 35-42

Abstract: Tests were conducted in 1968-1970 in a laboratory of the Armenian Scientific Research Institute of Water Problems and Hydraulic Engineering to determine experimentally the critical transporting capacity of flood-carrying systems with a hard bottom where there where two heterogeneous mixtures of afluvia characteristic of the granulometric composition of afluvia of flood carrying rivers of the Armenian SSR. The laboratory tests were conducted on a specially constructed flood channel of length 20 meters and width 0.37 meters, which consisted of four sections connected by hinges. The clean water was supplied from tanks and the afluvia were supplied from bunkers with mechanically regulated dosage. The experiments were conducted at angles of inclination

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

ASATRYAN, R. G., Izvestiya Akademii nauk Armyanskoy SSR, Seriya tekhnicheskikh nauk, No. 4, 1971, pp 35-42

of 0.01, 0.03, 0.05, and 0.10 for seven different water flows in the interval 27-324 l/sec·m and flows of afluvia in the range 0.3-17 kg/sec·m. A relationship was obtained between the critical transporting capacity of the flow and the inclination of the bottom. The coefficient of heterogeneity of the mixture played a considerable role in determining the transporting capacity of the flow. A relationship was obtained which shows that the critical flow of afluvia is directly proportional to the 3.3 power of the mean flow velocity and not to the 4th power as was obtained in other studies. The study was used to develop a method for calculating the transporting capacity of flood systems.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 632.95

ASEYEVA, I. V., GORCHARUK, L. G., ALTUKHOV, M. D., and SAMOKHVALOV, A. N.

"Herbicidal Activity of the Butyl Ether of 2,4-D on the Chemical Properties of Plants"

Nauch. dokl. Vysch. shkoly. Biol. n. (Scientific Institute for Higher Education in the Biological Sciences), No 2, 1973, pp 87-90 (from Referativnyy Zhurnal -- Khimiya, No 13(II), 1973, Abstract No 13N526)

Translation: The concentration of total nitrogen and free amino acids in twisted reed grasses increased after treatment with the butyl ester of 2,4-D. The amount of different amino acids changed but the sum of the total amino acids in the protein remained constant. Under the influence of the butyl ester of 2,4-D the concentration of chlorophyll in the reed grasses increased but the co centration of mono- and disaccarides decreased. The concentration of cells in the plants did not change.

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ASBEL', M. Ya.

NEW BOOKS OF 'NAUKA' PUBLISHING HOUSE

[List, Moscow, Vestnik Akademii Nauk SSSR, Russian, Vol 41, No 10, October 1971, pp 129-131]

Mathematical, Physical and Technical Sciences

I. M. Lifshits, M. Ya. Asbel', and M. I. Kaganov. Elektronnaya teoriya metallov (Electronic Theory of Metals). Moscow, 1971, 416 pages, 9000 copies, 1 r 89 k.

V. A. Makhonin. O psikhomorfizme v avtomatike (Psychomorphism in Automation). Institute of Problems of Information Transmission. Moscow, 1971, 128 pages, 5700 copies, 46 k.

Osvoyeniye kosmicheskogo prostranstva v SSSR. 1957-1967 [The Mastering of Cosmic Space in the USSR (1957-1967)]. Institute of

JPRS 54678
10 Dec 1971

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR

KHAMIDOV, A., ASER'YANTS, B. S., and YAKUBOV, I. M., Chair of Microbiology, Andizhan Medical Institute, Andizhan

"Clinical and Epidemiological Characteristics of Q-Fever in Rishtanskiy Rayon, Ferganskaya Oblast'"

Tashkent, Meditsinskiy Zhurnal Uzbekistana, No 1, Jan 73, pp 38-39

Abstract: In Mar-Apr 69 an outbreak of Q-fever occurred at a village in the Rishtansk Rayon, Fergana Oblast', among pupils and teachers of a school, of whom 77 were affected. The majority of the patients (64) were 8-15 years of age. There were 69 mild cases and 8 cases of medium severity. The patients exhibited a positive reaction of complement fixation with an antigen derived from Rickettsia burnetti, with the titer of the reaction increasing as the disease progressed. This indicated with certainty that the disease in question was Q-fever. Ten of 76 heads of cattle kept by private owners in the vicinity of the school had a positive complement fixation reaction towards R. burnetti. Furthermore, R. burnetti were isolated from the placenta of one cow. Evidently the outbreak occurred as a result of contact with infected cattle and because of the consumption at the school of raw milk and dairy products derived from such cattle.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC: 621.315.592

MOLIN, V. N., VASIL, O. I., SKRIPKINA, P. A., ASEYEV, A. L., PETROSYAN, V. I., STENIN, S. I., and TAVGER, B. A., Institute of Semiconductor Physics, Novosibirsk

"Connections of the Electrophysical Characteristics and Structure of Dimension-Quantized InSb Films"

Leningrad, Fizika i tekhnika poluprovodnikov, No 8, 1972, pp 1447-1451

Abstract: The purpose of this paper is to establish a connection between the structure and the electrical characteristics of InSb films with quantum dimensional effects. In the form of wedges, the specimens were prepared by pulse sputtering in a vacuum of 10^{-5} mm Hg on mica sheets measuring 10X80 mm. The specimens were given two types of structure by two modes of annealing. A photograph of these structures is reproduced, and curves are plotted for the mobility as a function of the thickness of the InSb films for the two structural types and for nonstoichiometric films with excess Sb, for the mobility as a function of the polycrystalline film temperature and the textured film temperature. The authors express their gratitude to E. I. Dagman and L. M. Rodnikova for their assistance.

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6-73

XVI-11. HETEROEPITAXY OF GERMANIUM ON GALLIUM ARSENIDE WITH VACUUM CONDENSATION

[Article by A. L. Asevev, O. I. Vasin, Yu. N. Golubkov, Ye. A. Krivorotov, S. I. Stunin, V. B. Shumskiy, Novosibirsk, Novosibirsk, USSR Academy of Sciences Institute of Semiconductor Physics]

[Text] Leningrad Poluprovodnikovyy Kristallov i Pleno, Russian, 12-17 June 1972, p 230]

Germanium films on gallium arsenide substrates were manufactured by condensation in a vacuum of 10^{-7}-10^{-8} torr. The deposition rate was 10-20 Å/min. the substrate temperature varied in the range of 320-600° C and the substrate orientation was (110). The surface structure of the films and the substrates was estimated by the method of electron diffraction on reflection, and the defectiveness of the germanium layers directly adjacent to the film-substrate junction was studied by a transmission electron microscope.

With an increase in the substrate temperature (T_s), the structure is transformed from polycrystalline (T_s = 320-440° C) to monocrystalline (T_s > 460° C). The basic type of defect in the heteroepitaxial germanium films was the packing defects located in the inclined (111) planes and the microtwins both with inclined and normal twinning planes (111). The most perfect heteroepitaxy was obtained in the temperature range of T_s = 540-560° C where the indicated defects are absent. The electron diffraction and electrophysical method demonstrated that up to a temperature of 600° C, no noticeable disassociation of the gallium arsenide takes place. The variations in the defectiveness of the boundary layers of Ge (intense twinning and the formation of packing defects at T_s = 460-520 and 580-600° C) agree with the variations in the electrophysical properties of the heterojunctions.

The mechanisms of the formation of the structure of the heterojunctions of germanium and gallium arsenide during vacuum deposition are analyzed in this paper.

ASEJEV, AL.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 537.533:533.951.8

ASEYEV, G. G., KUZNETSOVA, G. G., REPALOV, N. S., KHIZHNYAK, N. A., Physical-Technical Institute, Academy of Sciences of the UkrSSR, Khar'kov

"Parametric Instability of an Electron Beam Modulated by an External Electrostatic Field"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 42, No 11, Nov 72, pp 2264-2271

Abstract: The paper presents the results of experiments on studying the instability of an electron beam passing through a spatially periodic electric field. The conditions of existence of instability are experimentally determined. The increment of instability is measured together with its dependence on the electric field. The energy distributions of the electrons in the beam are measured in various operating modes. Some nonlinear limitations of stability are observed. The results agree with the theoretical model of parametric instability. The authors thank A. P. Voronin for preparing the experiment and assisting with the measurements.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002200220003-0

USSR UDC 533.916

ASEYEV, G. G., KUZNETSOVA, G. G., REPALOV, N. S., SAFRONOV, B. G., KHIZHNYAK, N. A .

"Parametric Instability of an Electron Beam in a Spatially Periodic Electric Field"

Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb. (Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 202-208 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G248)

Translation: Experimental studies of parametric instability of an electron beam as it passes through a spatially periodic electric field are described. The functional relationship between the level of the high-frequency radiation and the accelerating voltage and the current of the gun and also the magnitude of the external electric field is investigated. It was established that these relationships have a resonance character. Theoretical and experimental results for the case of resonance at the second harmonic of the plasma frequency of the beam agree quite satisfactorily. The results are analyzed.

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Jet type	E, joules	Nozzle dia., cm	Chamber pressure, atm	Exit velocity km/sec	Adiab. index, γ	Mach no.
With shock wave	3.0	0.9	11	3.1	1.67	—
With periodic structure	2.2	0.9	8	2.6	1.67	1.9

Table 1. Comparative data on supersonic nondivergent plasma jets

Aseyev, G. I., and M. L. Katz. Destruction mechanisms of alkali halide crystals and multi-photon ionization of impurity centers. FTT, no. 5, 1972, 1303-1307.

The destruction of a series of natural and impure alkali halide crystals (NaCl, KCl, KBr, NaBr, KCl-Eu, KCl-Ag, KCl-Tl, and KCl-In) under the effect of ruby and neodymium lasers was investigated in a free-running regime (energy = 1.5 joule, duration = 500μsec). Beam focusing on the specimens was done by f = 50 and 150 mm lenses. The destruction mechanism in crystals is explained in terms of Brillouin forced dispersion and local heating. The temperature at the damage site was approximately 5000°C at a near critical power density. Forced dispersion components were not observed. Results show little likelihood of destruction due to hypersonic phonons and high-frequency breakdown; the primary destruction mechanism is rather the local heating associated with absorption of a portion of the laser energy by crystal structure defects. The dynamics of the destruction process and causes of optical fatigue in alkali halide crys-

ASEYEV, G. I.

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Foundry

USSR UDC 669.18-147-412:621.746.73

ASEYEV, R. E. (Engineer), ZHUCHIN, V. N. (Cand. of Techn. Sciences), and KONDRASHIN, V. M. (Engineer)

"Continuous Pouring of Iron-Nickel Alloys on a Radial Unit and the Surface Quality of Thin-Section Castings"

Moscow, Stal', No. 4, Apr 72, pp 313-316

Abstract: The paper deals with the causes of shrinkage cavities in iron-nickel alloy castings (55 x 270 mm) made on continuous radial pouring equipment. It is shown that the thermal stresses in the crystallizing crust which increase due to uneven cooling (separation of crust from the ingot mold wall), reaching the yield point of the material, are the principal cause. The growth of these stresses is governed by the temperature dependence of the yield point. The process of shrinkage cavitation ceases when the thermal stresses level off with the formation of a plastic articulation in the form of a fold or localized sag. Tests on various shapes of ingot molds indicate rippled ingot molds to be the only solution for preventing the formation of shrinkage cavities. (3 illustrations, 8 bibliographic references).
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TITLE--CARBONIZATION OF RESOL TYPE PHENOL FORMALDEHYDE RESINS -U-

AUTHOR-(05)-BERLIN, A.A., FIALKOV, A.S., TSVELIKHOVSKIY, G.I., ASEYEVA, R.M., BAVER, A.I.

COUNTRY OF INFO--USSR

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SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--PHENOL FORMALDEHYDE RESIN, PYROLYSIS, X RAY STUDY, IR SPECTRUM, METHYLENE, DEHYDROGENATION, GAS CHROMATOGRAPHY, MASS SPECTROSCOPY, CONNUGATE BOND SYSTEM, POLYMER STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

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PROXY REEL/FRAME--3007/0732 STEP NO--UR/0191/70/000/006/0044/0048

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SAMPLES OF BAKELITE (I) CONTG. VARIOUS AMTS. OF PHOH WERE PREPD. BY THE PURIFICATION OF COM. I. I WAS THEN PYROLYZED IN VACUUM OR IN AR AT TEMPS. LESS THAN OR EQUAL TO 1000DEGREES. ANAL. OF DTA DATA AND S RAY AND IR SPECTRA SHOW THAT THE MAIN REACTIONS WERE BREAKING CH SUB2 BRIDGES, DEHYDROGENATION, AND FREE RADICAL REACTIONS INVOLVING QUINONOID STRUCTURES. GAS CHROMATOG. AND MASS SPECTROSCOPY SHOWED THAT THE MAIN DECOMPN. PRODUCTS WERE PHOH, CRESOL, BENZENE, H SUB2, CH SUB4, CO, CO SUB2, AND H SUB2 O. THE CARBONIZED RESIDUE OBTAINED AT 900DEGREES HAD AN UNORGANIZED STRUCTURE. INCREASING THE PYROLYSIS TEMP. INCREASED THE NO. OF CONJUGATED STRUCTURES AND ORDERING. THE SAMPLES WITH LOWER INITIAL PHOH CONTENTS GAVE DENSER PYROLYZED STRUCTURES.

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TITLE--OXIDATION OF DIPHENYLMETHANE IN THE PRESENCE OF POLYPHENYLACETYLENE -U-

AUTHOR-(04)-BERLIN, A.A., ASEYEVA, R.M., YARKINA, V.V., KOBRYANSKIY, V.M.

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SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--BENZENE DERIVATIVE, OXIDATION, ACETYLENE, ORGANIC AZO COMPOUND, ORGANIC NITRILE COMPOUND, CONJUGATE BOND SYSTEM, ANTIOXIDANT ADDITIVE

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